

# FUNGI KINGDOM



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# Habitat

Fungi will live pretty much everywhere and anywhere. Fungi may live in sea water, fresh water, in soil, on plants even on animals and human skin. It likes living near decaying wood or dead leaves because fungi enjoy areas where it is damp and where there is decaying wood. The most common places to find fungi though would be in meadows or in forested areas. they like these areas because there is probably dead materials around for them to grow off of. Certain types of fungi such as *Fairy Ring Toadstool*, prefer to be out in wide grassy areas. Other kinds of fungi can be found on trees. The fungi attach to the roots of the trees. The fungi being attached to the tree is a bond called mycorrhiza, this means the fungi is attached to feed off the plant.

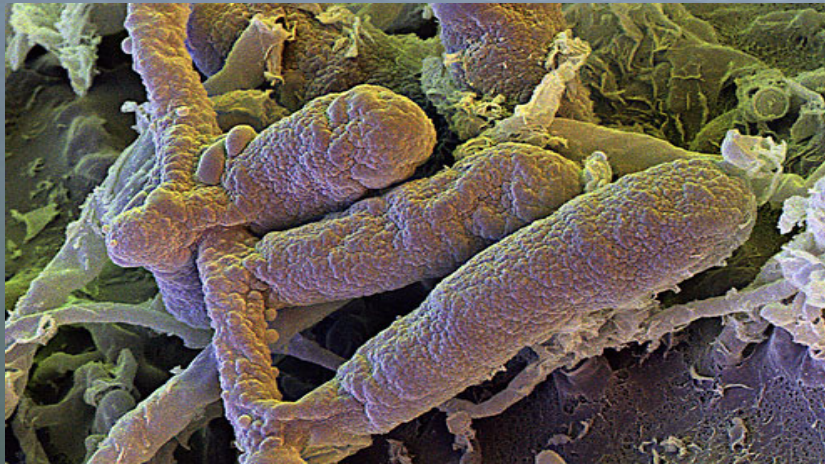
picture by: Brian Singleton





# Number of Species

It is said that 70,000 species of fungi have been identified. However, some scientist suggest that 1.5 million species may exist in the world and are yet to be found. Some species include mushrooms, toadstools, moulds, mildews, rust and yeast.



pictures by WalkinTas



# Evolutionary history

The evolutionary history of fungi is said to be evolved from algae and other water-living ancestors. There is evidence that show fungi species were living more then 460 milllion years ago. Some scientists believe that fungi is a more recent form of organism.

picture by: Garth Gell





# Major Phylas

In the fungi kingdom there are five major phylas.

Ascomycota: this is the largest group of fungi, it includes 50,000 species. This includes yeast, and lichens. This phyla is known for their production of spores in pod/sac-like structures.

Basidiomycota: this group includes 25,000 species which include edible and poisonous mushrooms, and puff balls. They are mainly found in woodlands and are key for decomposition in the woods. They can be recognized by their unique "umbrella" shape.

Chytridiomycota: these fungi are microscopic in size and cause plant disease. They live in aquatic and semi aquatic environments. There is approximately 1000 species.

Myxomycota: This group is a mix of both algae and fungi. The algae in the mix provides the nutrients for the plant. The fungi protects the plant from the elements of weather. This allows the plants to be able to live almost anywhere, this also meant that the plant has a long life span.

Zygomycota: this phyla has about 900 species. Their main purpose is decomposing. They live on land. Molds are the type of fungi you would find in this phyla.



## Major Phylas Cont'd

Deuteromycota: this phyla includes the "odd ones out". they don't fit into any other group, and there is about 25,000 species in this phyla. examples of this fungi is penicillium, yeast infections and athlete's foot (trichophyton)



pictures by: Jaroslav Malý





# General and Physical Structure

## Underground:

Fungi is generally made up from different moulds and yeast, which causes their unique structure. The moulds are made up of hyphae and hyphae later makes itself into mycelium.

The hyphae is an essential part of the fungus because it is the part that feeds, grows and has the potential to produce a mushroom or any kind of fungus.



- This **Hyphae** was found between two leaves sticking together because of moisture, this type is usually found between dead or old leaves, this is just one example of hyphae.

Another essential to the physical structure of fungi is **mycelium**.

Mycelium is related to the hyphae because mycelium is when

there is a grouping of hyphae that is formed to make mycelium. It helps the fungi to grow and reproduce.

If mycelium is put in a warm moist area with the right kind of material to grow off of it will create individual hyphae and will get the fungi growing and be able to be reproductive.



# General and Physical Structure

## Above ground:

The appearance of a mushroom above ground and its physical features are different compared to underground. You don't even see all of the fungi above ground just a small portion of how much there really is to it. Above ground there are 3 parts to the mushroom and they are the top which is known as the **cap**, this part of the mushroom has different characteristics to it for any fungi like it could be smooth, hairy, or have different appearances like flat, round etc .

tThe **gills** which are the on the lower surface of the mushroom under the cap thhis is also were the spores are produced.

Next is the **stem**, the stem isnt included in all mushrooms but the stem is an important part because it includes a veil and the veil it protects the gills when they are younger so the mushroom can live longer.



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# Type of Feeder

Fungi have an original way of consuming their food and providing themselves with enough in order to grow properly.

Typically fungi uses absorbtion to get there food they don't eat it like humans would eat, instead the hyphae to retrieve the food and then once that is done there are chemiucals in which break the food down into tinier pieces making it easier and more effective for the fungi to absorb the food and get enough nutrients.



# Modes of Reproduction

The reproduction of fungi is asexual. They are asexual because the fungi use methods such as Binary fission, Fragmentation, and Budding to reproduce.

Fragmentation: Breaks down into multiple fragments. Each separate fragment then continues to grow on its own.

Budding: One cell produces several reproductions called buds. They later detach and grow into individuals. This is most found in yeast.



picture by Dirk van Hoof



# Interesting *FACTS*

- there are over 1.5 **million** types of fungi but only **10%** of these have been revealed
  - The yeast fungus is used to produce beer, wine and etc.
- fungi grows on **living** organisms and **dead** organisms
  - If you eat certain fungi it can be deadly to you
- Fungi will reduce dead plants and turn them into soil
  - some of the oldest mushroom colonies are so large they can be seen from airplanes
- mushrooms grow towards the sun like plants but scientists know plants feed off the sun but they dont quite know how fungi uses sunlight to their advantage
  - Fungi takes the sugar from plants and then helps them absorb the water they need other minerals and nutrients
  - Some types of fungi disguise themselves as rotting meat. This is a way to attract flies which then become the fungi's prey.



picture by: Jaroslav Maly



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